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Development of the Therapy Procedures Checklist: A Therapist-Report Measure of Technique Use in Child and Adolescent Treatment

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Evaluated the psychometric properties of the Therapy Procedures Checklist (TPC). The TPC was developed to assess therapists' reports of the techniques they employ when working with child and adolescent clients. TPC items encompass the 3 most common therapeutic models for youth: psychodynamic, cognitive, and behavioral. In a survey of youth therapy experts, TPC items had good content validity for these dimensions. Factor analyses of TPC reports from 274 therapists produced the same 3-factor structure. TPC scales had good internal consistency (all $\alpha > .86$) and test–retest reliability (all $r > .79$) across samples. In a sample of practicing therapists, TPC scales were sensitive to within-therapist changes in technique use and revealed that therapists increased their use of behavioral techniques with young, externalizing child clients. The findings suggest the TPC may be a psychometrically sound measure and a useful assessment tool in youth therapy research.

Given the convergent results of several large-scale meta-analyses of child and adolescent psychotherapy,[1] it seems evident that therapy is capable of having a beneficial impact on the lives of troubled children (Casey & Berman, 1985; Kazdin, Bass, Ayers, & Rodgers, 1990; Weisz, Weiss, Alicke, & Klotz, 1987; Weisz, Weiss, Han, Granger, & Morton, 1995). This apparent efficacy of child treatment may appear to be good news for the families of the 2.5 million youth involved in therapy each year (Office of Technology Assessment, 1986) and for the professional, political, and scientific constituencies concerned with youth mental health care. But do the positive results of child therapy research trials generalize to the effectiveness of therapy in practice?

The child and adolescent treatment literature suffers from two limitations that have made it difficult to answer this question. First, the psychotherapy provided in most studies may differ in important ways from the care provided routinely by real-world clinicians. For example, it has been reported that typical clinical practice tends to be less structured, less behavioral, and more eclectic than most manualized research therapies (see, e.g., Kazdin, Bass, et al., 1990; Kazdin, Siegel, & Bass, 1990; Weisz, Weiss, & Donenberg, 1992). Second, the few studies that have examined child psychotherapy in real-world clinical settings generally have not specified either their models of intervention or the specific therapy procedures used. In combination, these two limitations lead to considerable uncertainty as to (a) the models and techniques typically used by practitioners and (b) the effectiveness of these therapies in practice settings. To monitor the mental health care being provided to youth, and to determine if changes in usual clinical care are needed, we need to resolve these uncertainties.

The first issue faced is one of instrumentation. To our knowledge, there is currently no assessment instrument designed to measure the techniques used by child therapists in the course of everyday clinical practice. Behavioral coding systems have been developed to assess therapist adherence to a single, specific therapeutic model (e.g., the Cognitive Therapy Scale; Vallis, Shaw, & Dobson, 1986), and several teams have worked to develop measures of general therapeutic tasks and processes, such as the formation of a positive therapeutic alliance (e.g., Shirk & Saiz, 1992). These

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[1]Hereafter referred to as child psychotherapy.

coding systems and measures, although important research tools, do not appear well equipped to assess the specific, eclectic mix of treatment techniques provided in child therapy practice.

Without a means of assessing the techniques used by therapists in practice, the conclusions and action implications of our effectiveness studies may be quite limited. For example, consider the null findings of the Fort Bragg investigation (Bickman, 1996), in which the Fort Bragg system of care program showed no better outcomes than usual clinical care provided in a comparison site. Drawing conclusions from this finding is difficult because we do not know what specific treatment procedures were used in either the system of care or the comparison site (Weisz, Han, & Valeri, 1997). We have no way of assessing whether the same techniques were used at both sites, and we have no information about whether the techniques used at either site followed "best practice" guidelines or were empirically supported treatments that would be expected to produce beneficial effects. Without this information, we are, unfortunately, left in the position of concluding merely that some sort of therapy did not seem to work better than some other therapy.

The value of specifying and testing treatment components in effectiveness studies may be even greater for investigations showing positive results. For example, a recent study by Angold, Costello, Burns, Erkanli, and Farmer (2000) reported beneficial effects of child outpatient care in a group of North Carolina mental health clinics. Although these results are encouraging, again, the authors were not able to provide information on the treatment procedures employed, and, thus, opportunities to build on their findings are cut short. Without knowing what treatment techniques were used, we are left with no new ideas about intervention to inform treatment development research, no explanation for why some community clinics (e.g., those in the Angold et al. study) succeed and others (e.g., those in Bickman, 1996; Weisz & Weiss, 1989) do not, and no substantive information on specific "treatments that work" to disseminate to practitioners and treatment programs.

Although the benefits of assessing treatment techniques in "usual clinic care" seem clear, the assessment process faces distinct challenges. As discussed previously, most child therapy in service settings does not involve following treatment manuals or monitoring of therapists' treatment activities (Addis & Krasnow, 2000), and eclecticism is prevalent both between therapists within the same treatment setting and within individual therapists across their caseload of clients. Indeed, Kazdin et al. (1990) reported that 73% of therapists consider it a useful strategy all or most of the time, in their practice, to employ an eclectic mix of techniques, drawn from multiple theoretical orientations. In this climate, simply asking therapists to identify their theoretical orientation may not lead to a very precise understanding of their technique use. Other, more complex methods of assessing therapists' behavior may not be well suited to the task either.

Perhaps the most obvious candidate approach would be videotaping of treatment sessions to code the presence of specific techniques and to assess general adherence to a range of treatment models. However, the process of taping and coding sessions is almost certain to be too cumbersome, time-consuming, expensive, and clinically intrusive to be widely used by therapists, service providers, or treatment effectiveness researchers. A more important concern is substantive: Therapy techniques tend to involve both an observable act and a purpose underlying that act. Even when taping and coding can be done, much of the information one would need to understand a therapist's purpose in saying or doing something may not be evident in tapes. If, for example, a therapist asks a young client how her parents reacted when she threw a tantrum, coders may not know (nor reliably agree) whether the therapist is attempting to explore the child's understanding of family dynamics (which might reflect a psychodynamic approach) or trying to carry out a functional analysis of tantruming by assessing contingencies (reflecting a behavioral approach). This is but one of many examples that could be used to illustrate that what one can observe may not necessarily provide the information needed to accurately characterize a therapist's techniques. To meet this objective requires information from therapists themselves.

This assessment situation resembles many others in mental health research in that there is no true gold standard for much of what we want to know, and we must rely on the reports of knowledgeable informants to generate the most accurate picture possible. The major instruments used to generate formal diagnoses within the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., rev.; American Psychiatric Association, 1994) system (e.g., the Diagnostic Interview Schedule for Children; Shaffer, Fisher, Dulcan, & Davies, 1996) all rely on self-reports by youth or on the reports of collateral informants (e.g., parents), because we lack a truly objective way to assess whether a child "has" a particular symptom or not. Similarly, assessment of behavioral and emotional problems (e.g., Achenbach, 1991), specific psychopathological conditions (e.g., Kovacs, 1992), and even quality of functioning in daily life roles (e.g., Hodges & Wong, 1997), rely on the reports of knowledgeable informants. The same approach appears necessary for assessment of therapists' technique use.

This perspective has guided our efforts to develop the Therapy Procedures Checklist (TPC). The TPC is a therapist-report measure designed to assess the treatment models and procedures used in clinical practice but, thus far, left unspecified and unmeasured in effectiveness studies. On the TPC, therapists are asked to

rate the extent to which they used specific psychodynamic, cognitive, and behavioral techniques in the treatment of their clients. These ratings provide information about the use of particular techniques from the three domains; in addition, technique item ratings may be summed to produce dimensional scores indexing overall therapist adherence to the psychodynamic, cognitive, and behavioral models.

In this article, we report the results of four studies designed to provide information on the psychometric properties of the TPC. In Study 1, we report the results of our item development procedure and describe the characteristics of the draft measure. Study 2 is an investigation of the content validity of the TPC items, using expert rating data from nationally prominent child and adolescent treatment researchers. In Study 3, we describe our analyses of the TPC scale structure and report internal consistency. In Study 4, we report the replication of our Study 3 reliability results in a new sample of therapists and provide data on the sensitivity of TPC scales to within-therapist shifts in technique use.

In our sensitivity analyses, we sought to determine whether the TPC was able to reliably detect therapist changes in technique use, across child clients. We focused on two child characteristics that could logically be related to therapist shifts in technique use: (a) developmental level and (b) domain of primary diagnosis. Research on cognitive development has suggested that limitations in young children's language development, abstract reasoning, and perspective-taking ability may argue against the use of certain insight-oriented or cognitive techniques (Weisz & Weersing, 1998). Practice surveys have indicated that therapists may be sensitive to these developmental limitations and employ a higher proportion of behavioral techniques with young children than with adolescents (Tuma & Pratt, 1982). Therapists may also tend to use more behavioral techniques with "externalizing" problems and diagnoses—for example, aggression, noncompliance, delinquency, hyperactivity, and inattentiveness. A plethora of research reports and popular press publications have documented the effectiveness of behavioral techniques and promoted their use with externalizing problems (e.g., Brestan & Eyberg, 1998). Developmental level and problem type, thus, seemed good candidates for our within-therapist analyses of TPC sensitivity.

Study 1: Item Development

In Study 1, we sought to identify the key theoretical orientations underlying therapists' technique use and to generate a draft version of the TPC reflecting these dimensions. In accord with accepted item development and content validation techniques (see, e.g., Haynes et al., 1995), we attempted to sample widely from multiple sources when drafting and refining items for the TPC, including (a) our own clinical experience and that of our colleagues in treating children and adolescents, (b) the published psychotherapy literature, (c) communications with child therapy researchers, and (d) discussion with members of our target population of therapists.

Method

To determine which theoretical perspectives should be represented in the TPC, we sought to identify the most common therapy approaches used with child and adolescent clients. To accomplish this, we selected a random sample of 150 child and adolescent therapists from the *National Register of Health Service Providers in Psychology* (Council for the National Register of Health Service Providers in Psychology, 1989, 1990), and we tabulated therapists' listed theoretical orientations. Very specific orientations were counted as examples of broader approaches (e.g., social learning as "behavioral," psychoanalytic as "psychodynamic"), reflecting both our understanding of their shared theoretical underpinnings and the classification of orientations used in the Kazdin, Siegel, et al. (1990) survey of practicing therapists. As we expected, many of our sampled therapists listed multiple orientations. Therefore, we took into consideration both the frequency total for each theoretical orientation across all mental health care providers and how often therapists listed each theoretical orientation first. From both of these tabulation procedures, three most widely endorsed approaches were identified: psychodynamic, cognitive, and behavioral. Of these approaches, the psychodynamic model appeared the most popular, with 28% of therapists listing psychodynamic first in their practice descriptions and 62% endorsing at least some use of dynamic techniques. In contrast, 10% of the sample identified as primarily cognitive and 14% as primarily behavioral, although nearly half of therapists indicated they used cognitive (43%) or behavioral (47%) techniques. In comparison, Kazdin, Siegel, et al. (1990) found that 59% of therapists endorsed psychodynamic approaches as "useful some or all of the time," 55% endorsed behavioral approaches, and 49% endorsed cognitive approaches. To best capture the eclectic mix of treatment techniques used in child therapy practice, we thus chose to develop TPC items for these three fundamental orientations.[2]

[2]In focusing on these three categories, we recognize that the increasingly popular cognitive–behavioral approach is not treated as a single category. Therapists who subscribe to this orientation might thus be likely to endorse items from both the cognitive and behavioral subsets. Empirically, cognitive and behavioral approaches do emerge as independent, albeit correlated, constructs throughout the rest of our measure development procedures (expert ratings, factor analyses, reliability analyses, and sensitivity analyses).

Initial items for the TPC were generated from review of the child psychotherapy literature. Twenty core articles were selected for each of the three identified theoretical dimensions; 10 articles were empirical studies of child psychotherapy and 10 were discussions of child treatment models in the clinical literature. To identify these articles, relevant computer databases were searched using key theoretical terms crossed with search terms for youth psychotherapy.[3] As our goal was to create a measure of theoretically specific technique use, for a technique to be included on the TPC, the item must have been identified as both central and specific to one of the theories. Items were deemed to be a central treatment technique if they appeared in at least four different articles by different authors from one theoretical domain. To create meaningful, clear measures of psychodynamic, cognitive, and behavioral approaches, we attempted to select items specific to each theory by eliminating items that appeared in multiple theoretical domains.

The item pool was reviewed by the authors, clinical psychology faculty at the University of California, Los Angeles, national colleagues in child psychotherapy research, and community mental health center (CMHC) therapists for relevance of items to psychotherapeutic work with children and overall representativeness of the domain of youth treatment. Based on recommendations by these judges, techniques were added and deleted, and items were rewritten for clarity and to eliminate redundancy. A working draft of the TPC was created and re-reviewed by CMHC therapists for readability and ease of use.

Results

At the end of this process of identifying and winnowing items, a complete version of the TPC was assembled. It consisted of 57 items measuring therapist use of different treatment techniques (e.g., Item 1, "Shaping, by teaching the desired behavior in a sequence of steps"). The response scale called for each item to be rated 0 (*I rarely or never did this*), 1 (*I sometimes did this*), or 2 (*I frequently or regularly did this*). These ratings were designed to provide information about the use of particular techniques from the three domains and to produce psychodynamic, cognitive, and behavioral scale scores assessing overall adherence to each of the three models.

Study 2: Content Validation

As a supplement to our qualitative methods of developing TPC items, in Study 2 an expert sample of youth psychotherapy researchers was recruited to assess the content validity of each of the TPC items techniques (see Haynes, Richard, & Kubany, 1995). We sought expert opinions to provide a relatively "pure" definition of each of the theories and to establish that our item pool did, indeed, provide a solid base of specific indicators for each major theory. Experts were selected as known representatives of either the psychodynamic, cognitive, or behavioral perspective and were asked to classify each TPC item as belonging to one of the three theoretical orientations.

Method

Participants and Procedure

Experts were identified on the basis of their publication record and nominations by other productive child treatment researchers. A total of 27 experts participated (90% response rate), nine from each of the three major theoretical orientations. At the time of their participation, each expert had published, on average, 46 articles in psychological, psychiatric, or other mental health related journals. Additionally, many of our experts administered university-based treatment clinics for youth and were authors of youth therapy treatment manuals, targeting a range of internalizing and externalizing problems and diagnoses. Experts did not differ significantly in publication record or clinical involvement by theoretical orientation.

Experts were asked to classify each TPC technique as primarily psychodynamic, primarily cognitive, or primarily behavioral. These TPC item ratings were obtained in the context of a larger survey about youth psychotherapy and psychopathology; however, experts were asked to rate the theoretical specificity of TPC techniques before completing any other aspects of the survey, minimizing any possible context effects.

Results and Discussion

A series of item-level chi-square analyses were conducted to assess the extent to which experts classified each TPC item as specific to either a psychodynamic, cognitive, or behavioral approach. In addition, analyses were run to determine whether experts from the three theoretical orientations differed in their item classifications. Alpha was set at .001.

Item Ratings

Of the 57 techniques, 53 (93%) were rated as theoretically specific (all $\chi^2\,(2) > 15.65$, $p < .001$), with 34 of the items demonstrating perfect agreement across experts. Experts classified each of these 53 techniques into the theoretical domain for which the item had been developed.

[3]Search terms included: psychodynamic, cognitive, behavioral, treatment, psychotherapy, therapy, child, adolescent, youth, pediatric.

Four items were not identified as belonging to a specific theoretical model: (a) striving for an atmosphere of collaborative empiricism, (b) assigning homework, (c) teaching self-administration of rewards, and (d) teaching relaxation skills. Frequency distributions indicated that all four were viewed as equally fitting cognitive and behavioral treatment models; none of the items received a single psychodynamic rating. We excluded therapist responses to these four items from the TPC technique use scale scores assessing theoretical adherence. The TPC was, thus, left with 53 theoretically specific technique items and four nonscored technique items that were blends of cognitive and behavioral practice.

Rater Effects

Experts from different theoretical persuasions did not differ significantly in their overall use of the categories, and, as a group, the experts appeared to have a shared understanding, despite their different theoretical orientations, of what constitutes the specific features of psychodynamic, cognitive, and behavioral thought (all $p > .30$). Examining expert ratings for the theoretical specificity of each individual item, only one item—that is, assigning homework—demonstrated marginal rater effects, $\chi^2\ (2) > 5.60$, $p = .06$. Although experts from all three theoretical persuasions agreed that assigning homework was associated with either cognitive or behavioral treatment, behaviorists classified homework as belonging primarily to behavioral therapy; cognitive experts claimed homework as a cognitive technique; and psychodynamic experts split their ratings between behavioral and cognitive categories. None of the experts identified assigning homework as a psychodynamic method. The homework item was excluded from TPC scale scores, as noted previously.

These findings suggest that our attempt to construct items that represent unique, defining features of the three different theoretical systems was largely successful. Expert raters were able to sort the item pool into the three categories with generally strong agreement, even across rater groups differing in their own theoretical orientation. The only overlap in ratings involved four techniques endorsed as reflecting both cognitive and behavioral categories.

Study 3: Scale Structure and Reliability

In Study 3, we sought to determine the factor structure of the TPC and to refine the scale in our target population of interest. For these purposes, a large sample of practicing child clinicians was selected from membership of national mental health organizations.

Method

Participants and Procedure

To form the sample, the names of 600 therapists[4] were drawn randomly from the *National Register of Health Service Providers in Psychology* (Council for the National Register of Health Service Providers in Psychology, 1992), and the names of 300 psychiatrists were randomly drawn from the *Membership Directory of the American Academy of Child and Adolescent Psychiatry* (American Academy of Child and Adolescent Psychiatry, 1992). For both sources, sampling was done from society members who self-identified as specializing in child treatment, adolescent treatment, or both. Participants were mailed copies of the TPC and asked to complete the measure for a client typical of their practice and to provide demographic and professional information about themselves. Clinicians were included in our final sample if they reported spending at least 40% of their professional time working with children and adolescents.

Of the 600 measures mailed to the first sample of therapists, 79 were returned either because of inaccurate address or because the clinician no longer worked with children or adolescents. Out of the remaining 521 eligible respondents, 217 (42%) therapists provided TPC data. Of the psychiatrist sample, 62 surveys were returned because of inaccurate address or deemed ineligible because the clinician no longer provided psychosocial interventions to children; a final total of 57 (24%) psychiatrists provided TPC data. These return rates are comparable to other surveys of practicing child psychologists (58%, Kazdin, Siegel, et al., 1990; 40%, Tuma & Pratt, 1982) and psychiatrists (33%, Kazdin, Siegel, et al., 1990; 24%, Silver & Silver, 1983). The total combined sample consisted of 274 therapists.

Basic demographic and professional characteristics of the combined sample are provided in Table 1, tabulated separately for psychologists and psychiatrists. Differences between psychologist and psychiatrist subsamples were tested with chi-square procedures for categorical variables and *t* tests for differences in means of continuous variables; significant differences are noted in the table.

[4]This sample of 600 therapists was nonoverlapping with the sample of 150 therapists in Study 1.

Table 1. *Characteristics of Therapist Respondents, Study 3*

Therapist Characteristics	Psychology (*n* = 211)	Psychiatry (*n* = 56)	Total Sample	
			M	*SD*
Age	44.7*	48.1*	45.5	9.0
Sex (% male)	58.7	57.9	58.7	—
Years therapy experience	16.3	15.7	16.2	8.8
Primary self-reported orientation (%)				
Psychodynamic	27.0	30.2	28.1	—
Cognitive	27.5**	7.5**	23.2	—
Behavioral	21.8**	3.8**	18.0	—
Other specific orientation	7.6	13.2	8.6	—
Eclectic	16.1**	45.3**	22.1	—
Primary employment setting (%)				
Private practice	45.0	41.1	44.1	—
Outpatient clinic, nonmedical	21.8	28.6	23.4	—
Outpatient clinic, medical	19.0	19.6	19.3	—
Inpatient, medical	0.5*	7.1*	1.9	—
Educational system	4.7	0	3.7	—
University-affiliated	7.6	3.6	6.7	—
Therapy activities (% time with)				
Children	52.9**	38.5**	49.5	25.1
Adolescents	27.5**	37.0**	29.7	18.6
Adults	19.3	24.6	20.5	18.9

Note: All participants completed the Therapy Procedures Checklist; however, six psychologists and one psychiatrist chose not to provide demographic data.
*$p < .05$. **$p < .001$.

Results and Discussion

Factor Analysis

Although we designed the TPC to have a three-factor structure, we were uncertain whether the measure would demonstrate this structure in a sample of practicing child therapists. It seemed possible, for example, that practicing therapists would lump all cognitive and behavioral items together into a single factor or split the psychodynamic factor into finer gradations. Thus, the use of exploratory factor analysis seemed the most appropriate analytic technique for this stage of measure development research (cf. Floyd & Widaman, 1995; Reise, Waller, & Comrey, 2000) and the least likely to lead to distortions of the factor solution (e.g., by misspecification of the number of factors in a confirmatory model).

Accordingly, a minimum-residual[5] factor analysis with varimax rotation was conducted with the 53 theoretically specific TPC items (Comrey, 1962; Comrey & Ahumada, 1964, 1965). To determine how many factors should be retained for further analysis, factors with eigenvalues less than one, factors defined solely by minor item loadings (<.30), and factors with less than three items with adequate loadings (>.40) were dropped from the analysis. An initial solution with three factors with several major loadings (>.60) and a fourth factor with adequate loadings (>.40) met these criteria and accounted for 56% of variance in techniques. However, inspection of the scree test revealed a large break after the third factor, with the fourth factor not clearly discernible from the fifth through seventh factors. Contents of the fourth factor were also very difficult to interpret, and there appeared to be a great deal of content overlap with the first factor. This evidence led us to believe that loadings on the fourth factor were an artifact of the varimax rotation procedure, which tends to split the variance of major factors across minor, spurious factors if too many factors are included in rotation (Lee & Comrey, 1979).

Accordingly, a three-factor solution was selected, and the minimum residual analyses were repeated and iterated. Item content was examined to determine the appropriate name for each factor, and, as intended, the three factors within the TPC appeared to represent psychodynamic, cognitive, and behavioral content. In an attempt to improve the simple structure of the solution, we carried out oblique rotations of the three factors (Thurstone, 1942). Positive factor correlations of a moderate size between the cognitive and behavioral factors provided a very good fit to the data ($r = .41$), as did negative factor correlations between psychodynamic and behavioral factors ($r = -.66$) and between

[5]In many methods of common factor analysis, estimates of the communalities are inserted into the diagonals of the item correlation matrix before matrix decomposition. These estimates introduce various forms of distortion into the analysis (Lee & Comrey, 1979). The minimum residual method extracts factors that minimize residual variance in the off-diagonal correlations, and the method does not require initial estimation of communalities.

psychodynamic and cognitive factors ($r = -.19$). This final solution accounted for 54% of the variance and separated TPC items into clear clusters (see Figure 1). The eigenvalues, item loadings, and variance accounted for by each factor are presented in Table 2.

Item Retention and Scale Construction

Items were retained on the psychodynamic, cognitive, and behavioral scales that had a loading of at least .50 on the primary factor for the scale and a difference of at least .20 between their loading on the primary factor and their loadings on the other two factors. Three items failed to meet these criteria and were excluded from TPC scale scores: (a) engaging in role-plays, (b) systematic desensitization, and (c) training to anticipate future problems. The final version of the TPC scales consisted of 50 theoretically specific psychotherapeutic techniques: 20 from the psychodynamic, 13 from the cognitive, and 17 from the behavioral domain.

Internal Consistency

Cronbach's α was computed for the each of the three technique scales (Cronbach, 1951). Internal consistency for all scales was very good (Nunnally & Bernstein, 1994), ranging from .92 to .96 (see Table 3). For each of the three scales, removal of additional items would not have improved internal consistency.

Study 4: Scale Reliability and Sensitivity

The goals of Study 4 were to (a) replicate internal consistency results for the final version of the TPC scales in an independent sample of practicing therapists, (b) obtain test–retest reliability data, and (c) assess the sensitivity of the TPC scales to *within*-therapist shifts in technique use. To accomplish these goals, we recruited a sample of therapists from the staff of local CMHCs. Between 1992 and 1999, we gathered information from 87 therapists on the treatment of 179 child clients. In the last decade, there has been a trend toward increasing provision of mental health services by social workers and other non-PhD providers (e.g., marriage, family, and child counselors [MFCCs]; Bureau of Labor Statistics, 1998; Clay, 1998). Our sample reflected this trend in that it included social workers and MFCCs, as well as psychologists.

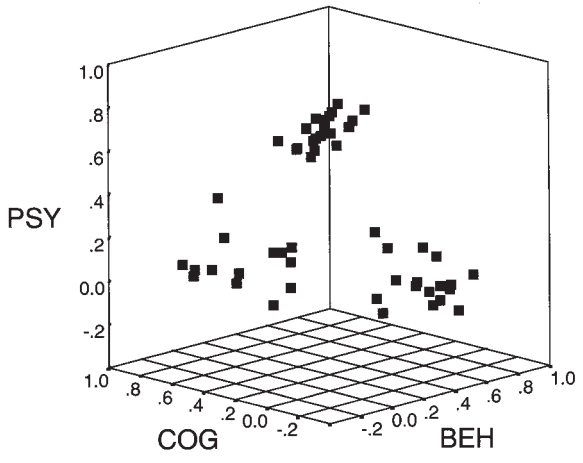

Figure 1. Scatterplot of TPC item loadings on psychodynamic (PSY), cognitive (COG), and behavioral (BEH) factors.

Method

Participants

Therapist participants. Of the 136 child therapists recruited for participation, 87 (64%) chose to participate and returned complete TPC data for one or more child clients. Sixty percent of participating therapists were psychologists (52% with doctorates), and 40% were social workers and MFCCs (69% with master's degrees). Demographic and professional characteristics of the sample are provided in Table 4. Reliable differences between the psychologists and other professionals were tested with chi-square procedures for categorical variables and *t* tests for differences in means of continuous variables; the one marginally significant difference obtained is indicated in the table.

Child participants. Therapists provided TPC data for a total of 179 child clients, ranging in age from 7 to 17 ($M = 11.93$; $SD = 2.57$). Sixty-six percent of these children were male; 47% were ethnic minority youth, primarily Hispanic and African American. The most common intake diagnosis for youth was oppositional defiant disorder (45%) followed by diagnosis of a depressive disorder (26%; dysthymia, major depression, depression NOS). For our purposes, intake diagnoses were grouped into primarily externalizing (61%; oppositional defiant disorder, conduct disorder, attention deficit hyperactivity disorder) or internalizing (39%; depressive, anxiety, and adjustment disorders) in nature.

Procedure

Data were collected for this project as part of the University of California, Los Angeles Clinic Study, a longitudinal investigation of the effectiveness of youth psychotherapy. Therapists were recruited from the staff of Los Angeles-area CMHCs, and participating therapists

Table 2. *Factor Loadings, TPC Technique Scales*

Item Description	Psychodynamic Factor Loading	Cognitive Factor Loading	Behavioral Factor Loading
Psychodynamic technique scale			
Understand effects of early experiences	.89	.06	.07
Develop a dynamic formulation	.89	–.09	.09
Help child develop ego functioning	.86	.04	.01
Alter child's use of defense mechanisms	.83	.09	–.04
Understand child's unconscious drives	.84	.03	–.03
Help child resolve developmental struggles	.82	.10	.05
Use transference to understand interpersonal style	.82	–.09	.02
Understand original problem circumstances	.81	.04	.15
Interpret child's play/art/behavior for parent	.78	.08	.02
Interpret child's in-session behaviors	.77	.04	.02
Interpret underlying meaning of words	.77	.04	–.03
Analyze child's fantasies	.76	.01	–.13
Explore child's understanding of family dynamics	.75	.26	.08
Help child gain insight into feelings/motives	.72	.20	–.16
Help develop adequate psychic structure	.71	.08	–.16
Foster therapeutic relationship	.70	.04	.05
Encourage expression of feelings	.70	.22	.12
Use play to encourage symbolic expression	.69	.16	–.09
Encourage recall of early memories	.67	.07	–.08
Provide corrective emotional experience	.65	.19	.06
Cognitive technique scale			
Teach modification of cognition	.00	.84	.01
Challenge irrational beliefs	.04	.82	–.10
Train child to recognize maladaptive thoughts	.03	.77	–.07
Teach model of cognition-behavior-emotions	.02	.75	.03
Teach child to monitor self-talk	–.06	.69	.11
Help child generate alternative interpretations	.36	.67	–.04
Cognitive reframing	.01	.66	.11
Enhance perspective-taking skills	.19	.62	–.03
Encourage use of self-talk to guide action	.08	.57	.29
Give direct instruction to change thoughts	–.13	.53	.21
Train problem-solving skills	–.07	.52	.29
Encourage self-evaluation of performance	.13	.51	.27
Set up hypothesis tests	.12	.50	.14
Behavioral technique scale			
Use point or token system	–.03	–.09	.85
Discontinue rewards for negative behaviors	–.02	–.01	.79
Fade rewards to promote generalization	–.04	–.01	.77
Reward and praise positive behaviors	.11	.05	.75
Chart behavioral gains	–.01	–.01	.72
Develop secondary reinforcers	–.03	.12	.71
Use prompts to elicit desired behavior	–.05	.04	.70
Use time-out	–.09	–.16	.70
Arrange modeling opportunities	.13	.11	.69
Teach behavior in steps	–.07	.09	.68
Use response-cost procedures	–.09	–.01	.68
Rearrange environmental contingencies	–.01	.09	.67
Ignore inappropriate behavior	.02	–.11	.66
Use overcorrection techniques	–.05	–.11	.62
Make contract for child's behavior	–.01	.14	.58
Train parents and teachers	.15	.16	.55
Carry out functional analysis of behavior	–.08	.19	.51
Nonspecific items			
Role-play situations	–.02	.27	.26
Use systematic desensitization	–.11	.23	.38
Train anticipation of future problems	.33	.47	.29
Summary statistics			
Eigenvalue	18.54	8.14	2.70
Variance accounted for by factor	35%	15%	5%

Note: TPC = Therapy Procedures Checklist.

Table 3. *Reliability of TPC Scales*

Scale	Number of Items	Cronbach's α Study 3	Cronbach's α Study 4	Test–Retest Study 4
Psychodynamic technique	20	.96	.92	.79
Cognitive technique	13	.92	.88	.74
Behavioral technique	17	.94	.84	.75

Note: TPC = Therapy Procedures Checklist.

Table 4. *Characteristics of Therapist Respondents, Study 4*

Therapist Characteristics	Psychology (n = 50)	Social Work and MFCC (n = 33)	Total Sample	
			M	*SD*
Age (*staff only*)	43.6	44.3	44.0	10.0
Sex (% male)	26.0	16.7	22.1	—
Years therapy experience (*staff only*)	10.2	9.7	9.9	8.7
Primary self-reported orientation (%)				
Psychodynamic	42.0	38.9	42.7	—
Cognitive–behavioral	10.0	5.6	8.5	—
Behavioral	4.0	8.3	6.1	—
Other specific orientation	12.0	25.0	18.3	—
Eclectic	26.0	19.4	24.4	—
Training experience (% time with)				
Children	48.4*	39.8*	44.9	19.3
Adolescents	28.3	30.4	29.1	16.2
Adults	22.3	30.0	25.5	22.6
Therapy experience (*staff only*) (%)				
Children	48.8	49.7	49.4	21.5
Adolescents	34.5	29.7	31.6	18.0
Adults	15.0	12.6	13.5	14.0

Note: MFCC = marriage, family, and child counselor. All participants completed the Therapy Procedures Checklist; however, four therapists chose not to provide demographic and professional data.
*p = .05.

introduced the research project to the families of their child clients. For families who indicated interest, consent was obtained to (a) search CMHC records for youth demographic and clinical characteristics and (b) collect TPC data at therapy termination from the youth's primary therapist.

Internal consistency procedure. TPC data from all 87 therapists were used in the calculation of Cronbach's α for each of the three technique scales. For those therapists who provided TPC data for more than one child client, one TPC was randomly selected for analysis.

Test–retest reliability procedure. After completion of the original TPC at treatment termination, a subset of 30 therapists was mailed a second TPC 2 weeks later and asked to complete it for the same client as reported on previously. Twenty-five therapists returned this second TPC, forming our test–retest reliability sample. Therapists in this test–retest group did not differ significantly from the rest of the participant sample on any variable in Table 4.

Sensitivity procedure. A number of CMHC therapists in our sample provided TPC data for three or more child clients. These therapists (N = 16) and child clients (N = 108) formed the sample for the sensitivity analyses. The therapists included in the sensitivity analyses were significantly more experienced than the rest of the participating therapists, $t(41)$ = 3.20, p = .003, with a mean of 17.6 years of professional practice, but otherwise did not differ in demographic or professional characteristics. Child clients included in the sensitivity analyses did not differ from other children in the sample in terms of their clinical or demographic characteristics (all $p > .21$).

In the sensitivity analyses, we sought to determine (a) if the TPC was able to assess within-therapist variance in technique use and (b) whether within-therapist shifts in technique use were logically related to variables of theoretical interest (i.e., child characteristics). We hypothesized that the TPC scales would be sensitive to within-therapist shifts and, specifically, that our sample of CMHC therapists would report using significantly more behavioral techniques with young clients and children with externalizing diagnoses. To test these hypotheses, we used multilevel modeling techniques to

estimate a series of nested, random-effects regression models.[6] Although our a priori hypotheses only involved prediction of behavioral technique use, we conducted exploratory analyses for the other two technique scales as well.

As the first step in the analysis of each TPC scale, we estimated an unrestricted base model of variance in therapist technique use. This base model partitioned variance in TPC scores into within-therapist (Level 1) and between-therapist (Level 2) components, without including specific predictors of this variability. We then examined the proportion of within-therapist variance present in the base models to assess the extent to which therapists differed across clients in their self-reported technique use. As the second step in analysis, we attempted to predict this within-therapist variance in TPC scores using child age and diagnosis.

Results and Discussion

Internal Consistency and Test–Retest Reliability

This sample was both smaller (n = 87) and more heterogeneous than the sample of therapists in Study 3. However, alphas remained high for the three TPC technique scales, ranging from .84 to .92. Two-week test–retest reliabilities were also very good, ranging from .74 to .79. Reliabilities and numbers of items for each scale are listed (by study) in Table 3.

Sensitivity

Results are presented for three sets of multilevel modeling analyses, one set for each of the TPC technique scales. As our analyses of psychodynamic and cognitive technique use were exploratory, alpha was set at .05 for the sensitivity analyses. Data were analyzed with the program HLM, version 5 (Raudenbush, Bryk, & Congdon, 2000).

We began by testing our hypothesis that therapists would vary across clients in their use of behavioral techniques and, specifically, that therapists would report using more behavioral techniques with younger, externalizing child clients. Examination of the unrestricted base model of behavioral technique use revealed that 42% of the total variance in behavioral scores was associated with within-therapist shifts in technique use, across caseloads of child clients. When we included child age and diagnosis in our next stage of analysis, both predictors emerged as significant (child age, p = .001; diagnosis, p = .015), with effects in the predicted direction. Age and diagnosis jointly explained 14% of within-therapist variance in behavioral technique use (Equation 4.14; Bryk & Raudenbush, 1992).

We next turned to our exploratory analyses of psychodynamic and cognitive technique use. Examining the unrestricted base models for each scale again revealed that substantial amounts of variance in psychodynamic (34%) and cognitive (41%) technique use was associated with within-therapist differences in TPC responses. For the psychodynamic scale, child diagnosis was marginally (p = .07) predictive of within-therapist variance in technique use, with therapists reporting increased use of dynamic techniques with internalizing child clients. Neither age nor diagnosis were related significantly to self-reported use of cognitive techniques (all $p > .24$).

General Discussion

The studies reported in this article were designed to establish the basic psychometric properties of the TPC. Across studies, there was good convergence of expert and practitioner opinion on the theoretical structure and psychometric characteristics of the TPC. Experts were able to classify more than 93% of the TPC items as belonging primarily to psychodynamic, cognitive, or behavioral theory, and the few nonclassifiable items were all rated as blends of the closely affiliated cognitive and behavioral models. Factor analysis of the TPC in an eclectic sample of practicing therapists yielded the same three-factor structure representing psychodynamic, cognitive, and behavioral content. The TPC subscales formed from these factors demonstrated excellent internal consistency, as assessed by Cronbach's α, both in the original development sample of therapists and in a second independent reliability sample of practicing clinicians. Test–retest reliability was also good for each of the TPC scales.

[6] We did not have preexisting hypotheses that therapist characteristics would influence the relations between TPC scores and child characteristics. Accordingly, we specified random-intercept regression models, in which therapist mean scores on technique use were allowed to vary as a random effect, but child characteristics were set as fixed effects, invariant across therapists. As an example, equations predicting behavioral technique use scores follow, with fixed effects in standard formatting and random effects ($\underline{\beta}$, $\underline{\varepsilon}$, $\underline{\delta}$) indicated by underlining.

Level 1: $(\text{behtech})_{ij} = \underline{\beta}_{0j} + \beta_{1j}(\text{age})_{ij} + \beta_{2j}(\text{dx})_{ij} + \underline{\varepsilon}_{ij}$

Level 2: $\underline{\beta}_{0j} = \gamma_{00} + \underline{\delta}_{0j}$

$\beta_{1j} = \gamma_{10}$

$\beta_{2j} = \gamma_{20}$

In the Level 1 equation, the outcome variable $(\text{behtech})_{ij}$ is the TPC behavioral technique use score for the treatment of client i by therapist j. The variables $(\text{age})_{ij}$ and $(\text{dx})_{ij}$ are our within-therapist, child-level predictors—child age and domain of child's diagnosis. $\underline{\beta}_{0j}$ is the random, therapist-level mean score on behavioral technique use. The regression coefficients βb_{1j} and β_{2j} capture the fixed-effect relations between the child characteristics and behavioral technique use. Within-therapist error is denoted by $\underline{\varepsilon}_{ij}$.

In the Level 2 equations, the random intercept (i.e., $\underline{\beta}_{0j}$, therapist mean) of Level 1 is not predicted by any specific therapist characteristics. $\underline{\delta}_{0j}$ is the group level error term. Note that group-level errors are not estimated for the fixed-effect regression coefficients from Level 1.

The TPC scales also appeared to be sensitive to within-therapist changes in technique use, across therapists' caseloads of child clients. Using multilevel modeling procedures, we examined relations between child age, domain of primary diagnosis, and TPC scores. As hypothesized, both younger client age and externalizing behavior problems were associated with increased reports of behavioral technique use. In addition to demonstrating the sensitivity of the TPC to changes in technique use, these data also provide preliminary evidence of validity: TPC scale scores were significantly associated with theoretically important variables that would be expected to impact technique selection (i.e., client characteristics).

Although these psychometric data on the TPC appear promising, several directions for future research can be envisioned for the TPC. In developing TPC items, we chose to focus on specific therapy techniques drawn from the three most common therapeutic orientations. The majority of therapists in our sample subscribed to one of these orientations; however, a portion of the sample endorsed a single primary orientation other than psychodynamic, cognitive, or behavioral (9% in Study 3; 18% in Study 4). Further investigation and monitoring of other theoretical approaches may be warranted to ensure stability of TPC content validity over time, especially given alterations in practice occurring as a result of substantive changes in the health care system (e.g., managed care and the movement to shorter term treatment models). In addition, although TPC is designed to focus on specific theories, there may also be value in examining common elements of therapy, such as regular meetings with an empathic adult, which may be important curative processes in treatment (for review, see Russell & Shirk, 1998), although other assessment instruments have already been developed for these purposes (e.g., Shirk & Saiz, 1992).

Another potentially useful step in further development will be assessment of correspondence between therapist reports and those aspects of observable therapist behavior in sessions that can reasonably be linked to TPC responses. As we noted in the introduction, there is no gold standard for measurement of therapist technique, as much of what constitutes the therapist's technique involves a combination of observable behavior and unobservable therapist intent. As a consequence, many of the items on the TPC could not reasonably be coded from videotaped sessions; examples of therapeutic tasks with no observable referent are evident in items of each subscale—for example, "Developing a dynamic formulation" (psychodynamic), "Trying to enhance the child's cognitive perspective-taking skills" (cognitive), "Ignoring inappropriate behavior" (behavioral). This said, some of the TPC item content may be sufficiently evident in videotaped sessions to warrant coding; examples include "Translating into words understandable by the child and/or parent the needs, thoughts, or feelings expressed in child's play, art or behavior" (psychodynamic), "Identifying and challenging irrational beliefs, attributions or schemas" (cognitive), and "Using a point or token system to reward the child for good behavior" (behavioral). By focusing on the codable portions of the TPC, it should be possible to provide some evidence bearing on the correspondence between therapist reports and observable behavior in sessions. Taking this step seems a useful contribution to further development of the TPC.

Looking to the future, we anticipate several applications of the TPC. First, the instrument may help researchers address the long-standing dearth of information on the techniques therapists use in the settings where effectiveness research is carried out. As noted in the introduction, this gap in information has limited the value of effectiveness research, whether findings show beneficial treatment effects or not, because it has remained unclear what techniques led to the beneficial effects or their absence. The evidence presented here suggests that TPC can provide a psychometrically sound method of obtaining therapist reports on the techniques they use in practice, making it feasible for researchers to provide information on therapy technique use when reporting the results of effectiveness studies.

As a second application, the TPC may be used at a survey level to identify the techniques therapists report in particular settings or at particular points in time. This will make it possible to characterize and compare various settings and populations in regard to therapist reports of prevailing practice patterns. For example, using the TPC in a survey fashion, we have found that very few community therapists report using empirically supported techniques for treating child anxiety disorders. Seventy-six percent of therapists seeing anxious youth reported that they "rarely or never" taught their clients relaxation skills, and 81% of therapists did not provide any form of exposure therapy—techniques considered standard treatment in many research settings and university-based clinics (Weersing & Weisz, 2000). Using the TPC as a survey measure, it would also be possible to track changes in therapist technique use over the course of time, as a function of modifications in training procedures, changes in law or public policy, or shifts in the practice environment (e.g., changes in managed care procedures or reimbursement policies).

As a third application, the TPC may be used to develop ad hoc descriptive manuals for specific programs of clinic care. As of late, there has been an upswing of interest in investigating the effectiveness of usual clinic care for children (e.g., Weiss, Catron, Harris, & Phung, 1999) and in comparing the effects of usual clinic care to treatment programs developed in research laborato-

ries (e.g., Eddy & Chamberlain, 2000). In our own work in this area, we have found the TPC useful in delineating the content of usual clinic care treatment (Weersing & Weisz, in press), differentiating the usual care control condition from the experimental procedures, and detecting contamination of usual care by procedures from the experimental treatment protocol (e.g., by examining trends in TPC responses in the usual care condition over the course of the study).

A fourth possible application of the TPC could be to tie TPC responses to changes in child symptomatology following treatment. Use of the TPC in this manner to predict treatment outcome may shed some interesting light on the effects of the generally eclectic package of care provided to children in typical clinical practice—including the benefits of providing a comprehensive, broad treatment package versus a targeted, narrow intervention to the multiproblem children seen in typical practice. As a fifth, related research application, the TPC may be used to assess relations between treatment techniques and other important responses to therapy. Regardless of the effects of treatment on psychopathology, or even if there were no differential effect of technique on symptoms, it is conceivable that certain treatment techniques or patterns of care may be more acceptable to children, families, and therapists. Beyond consumer satisfaction, it is possible that, holding outcome constant, some treatments may "cost" less, both in monetary and less tangible terms (e.g., in the amount of planning and effort required of therapists to deliver the treatment).

Through applications like these, it may be possible to nudge research toward more fine-grained assessment of child therapy procedures in real-world practice settings. Movement in this direction could help to increase the yield of scientific information garnered from therapy effectiveness studies and, ultimately, improve the quality of mental health care delivered to children.

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